AMENDMENTS TO THE CLAIMS:

Claim 1-17. (Canceled)

Claim 18. (Currently amended) A method for driving an ink jet recording head, comprising

applying a driving voltage to an electro-mechanical converter to deform the electro-mechanical converter to thereby change a pressure in the pressure generating chamber filled with ink, thus ejecting ink droplets with a size of about 5 to about 25 μm through a nozzle in communication with the pressure generating chamber, wherein said applying said driving voltage comprises:

a first voltage changing process which applies a voltage in a direction that increases a volume of said pressure generating chamber;

a second voltage changing process which applies a voltage in a direction that reduces the volume of said pressure generating chamber; and

a third voltage changing process which applies a voltage in a direction that increases the volume of said pressure generating chamber again, wherein voltage changing times t_2 and t_3 during the second and third voltage changing processes have such lengths as shown below, relative to a resonance frequency Tc of a pressure wave generated in the pressure generating chamber:

$0 < t_2 < T_c/2$

$0 < t_3 < T_c/2$ and,

wherein said nozzle has an opening diameter of about 20 to less than 30 μm, and

wherein said driving voltage changing times are based upon said resonance frequency.

Claim 19. (Currently amended) A method for driving an ink jet recording head, comprising

applying a driving voltage to an electro-mechanical converter to deform the electro-mechanical converter to thereby change a pressure in a pressure generating chamber filled with ink, thus ejecting ink droplets with a size of about 5 to 25 μm through a nozzle in communication with the pressure generating chamber, wherein said applying of said driving voltage comprises:

a first voltage changing process which applies a voltage in a direction that increases a volume of said pressure generating chamber;

a second voltage changing process which applies a voltage in a direction that reduces the volume of said pressure generating chamber; and

a third voltage changing process which applies a voltage in a direction that increases the volume of said pressure generating chamber again, wherein voltage changing times t_2 and t_3 during the second and third voltage changing processes have such lengths as shown below, relative to a resonance frequency T_c of a pressure wave generated in the pressure generating chamber:

$0 < t_2 < T_c/2$

$0 < t_3 < T_c/2$,

wherein said nozzle has an opening diameter of about 20 to less than 30 μm, ~~and~~

wherein a start time of said third voltage changing process is about the same as an end time of said second voltage changing process, and

wherein said driving voltage changing times are based upon said resonance frequency.

Claim 20. (Currently amended) A method for driving an ink jet recording head, comprising

applying a driving voltage to an electro-mechanical converter to deform the electro-mechanical converter to thereby change a pressure in the pressure generating chamber filled with ink, thus ejecting ink droplets of a size of about 5 to 25 μm through a nozzle in communication with the pressure generating chamber, wherein said applying said driving voltage comprises:

a first voltage changing process which applies a voltage in a direction that increases a volume of said pressure generating chamber;

a second voltage changing process which applies a voltage in a direction that reduces the volume of said pressure generating chamber;

a third voltage changing process which applies a voltage in a direction that increases the volume of said pressure generating chamber again; and

a fourth voltage changing process which applies voltage in a direction that reduces the volume ~~voltage~~ of said pressure generating chamber, after said first voltage changing process, said second voltage changing process, and said third voltage changing process, wherein voltage changing times t_2 and t_3 during the second and third voltage changing processes have such lengths as shown below, relative to a resonance frequency T_c of a pressure wave generated in the pressure generating chamber:

$0 < t_2 < T_c/2$

$0 < t_3 < T_c/2$ and,

wherein said nozzle has an opening diameter of about 20 to less than 30 μm, and wherein said driving voltage changing times are based upon said resonance frequency.

Claim 21. (Currently amended) A method for driving an ink jet recording head comprising

applying a driving voltage to an electro-mechanical converter to deform the electro-mechanical converter to thereby change a pressure in the pressure generating chamber filled with ink, thus ejecting ink droplets of a size of about 5 to 25 μm through a nozzle in communication with the pressure generating chamber, wherein said applying said driving voltage comprises:

a first voltage changing process which applies a voltage in a direction that increases a volume of said pressure generating chamber;

a second voltage changing process which applies a voltage in a direction that reduces the volume of said pressure generating chamber;

a third voltage changing process which applies a voltage in a direction that increases the volume of said pressure generating chamber again, and

a fourth voltage changing process which applies voltage in a direction that reduces the volume ~~voltage~~ of said pressure generating chamber, after said first voltage changing process, said second voltage changing process, and said third voltage changing process, wherein voltage changing times t_2 and t_3 during the second and third voltage changing processes have such lengths as shown below, relative to a resonance frequency T_c of a pressure wave generated in the pressure generating chamber:

$0 < t_2 < T_c/2$

$0 < t_3 < T_c/2$, wherein said nozzle has an opening diameter of about 20 to less than 30 μm, and wherein a voltage changing time t_4 during said fourth voltage changing process has a length relative to the resonance frequency T_c of the pressure wave generated in said pressure

generating chamber as follows:

$0 < t_4 < T_c/2$,

wherein said driving voltage changing times are based upon said resonance frequency.

Claim 22. (Currently amended) A method for driving an ink jet recording head comprising

applying a driving voltage to an electro-mechanical converter to deform the electro-mechanical converter to thereby change a pressure in the pressure generating chamber filled with ink, thus ejecting ink droplets of a size of about 5 to 25 μm through a nozzle in communication with the pressure generating chamber, wherein said applying said driving voltage comprises:

a first voltage changing process which applies a voltage in a direction that increases a volume of said pressure generating chamber;

a second voltage changing process which applies a voltage in a direction that reduces the volume of said pressure generating chamber;

a third voltage changing process which applies a voltage in a direction that increases the volume of said pressure generating chamber again;

a fourth voltage changing process which applies voltage in a direction that reduces the volume ~~voltage~~ of said pressure generating chamber, after said first voltage changing process, said second voltage changing process, and said third voltage changing process; wherein voltage changing times t_2 and t_3 during the second and third voltage changing processes have such lengths as shown below, relative to a resonance frequency T_c of a pressure wave generated in the pressure generating chamber:

$0 < t_2 < T_c/2$

$0 < t_3 < T_c/2$, wherein said nozzle has an opening diameter of about 20 to less than 30 μm, wherein a voltage changing time t_4 during said fourth voltage changing process has a length relative to the resonance frequency T_c of the pressure wave generated in said pressure generating chamber as follows:

$0 < t_4 < T_c/2$, and wherein a time interval between a start time of said second voltage changing process and a start time of said fourth voltage changing process is set substantially half the length of the resonance frequency T_c of the pressure wave generated in said pressure generating chamber, and

wherein said driving voltage changing times are based upon said resonance frequency.